

Marine Air Ground Task Force Deployment Support System II (MDSS II)

AIT Practical Application Guide



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July 1998

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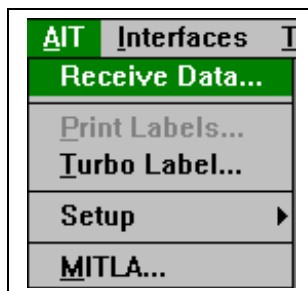
AUTOMATIC IDENTIFICATION TECHNOLOGY

Prologue. In order to prepare MDSS II for AIT use, the following steps must be accomplished:

1. Open the Tank Co UDL and build a location table by selecting <USER>, <PLAN DATA>, <LOCATION> and adding the locations listed below: (**NOTE:** The AIT Location Code has a maximum allowable length of 9 characters.)

AIT Location Code	AIT Description
SHIP	Onboard MPS Vessel
BOG	Beach Operations Group (LSB)
MCC	Movement Control Center (MEF Level)
AAOE	Arrival and Assemble Operations Element (MSC Level)

2. Ensure your cursor is in the "AIT Location Code field". Select <EDIT>, <REPLACE>. Type 'BLANK' in the "Find" field and 'SHIP' in the "Replace" field. Select 'All' in the "Search" field and 'Match Case'. Select 'OK'. This will change all locations to reflect "SHIP".



1. **System Overview.** AIT includes the use of LOGMARS and MITLA technology. LOGMARS utilizes bar code scanning methods to identify and track cargo, equipment, personnel and ammunition. MITLA uses radio frequency technology to provide in-transit visibility with a non-contact interface with the MAGTF LOG AIS family of systems.

a. The Receive Data Module enables you to upload scanned data to a floppy diskette or hard drive via cable or wireless modem.

b. The Print Label Module enables you to generate LOGMARS labels from the UDL.

c. The Turbo Label Module is designed to enable on-the-fly creation of equipment labels, including single line TCN labels.

d. The Setup Module allows you to prepare all hardware to be used with the AIT Module. This includes the PDCDs, wireless modems and label printers.

e. The MITLA Module allows you to update the UDL table directly with equipment record information using radio frequency technology.

2. System Installation. MAGTF LOGAIS must be installed on your PC.

3. Hardware Requirements. The following list provides the required and recommended components for operating AIT technology:

a. LOGMARS requires:

(1) JANUS 2010 Intrinsically Safe, Industrially Hardened PDCD or Intermec 94XX series PDCD

(2) Intermec 1545 Bar Code Scanner.

(3) Interface Cradle/Charger with PDCD upload/download cable

(4) Intermec 4100 Bar Code Label Printer

(5) Esteem wireless modem model 85/95

b. MITLA requires:

(1) SAVI Fixed Interrogators

(2) SAVI RF Ty Tags

LOGMARS OPERATIONS

1. JANUS 2010 Setup. The JANUS 2010 PDCD requires a **ONE** time setup in order to make it perform properly with the LOG AIS systems. Use INTERSVR.EXE found in DOS 6.22. or provided with the JANUS 2010 PDCD on a floppy disk. Copy this file to your hard drive and follow the steps listed below: (**NOTE:** This is only required if you are using a JANUS 2010. If you are using 94XX series DCD's, you may skip this section.)

Practical Exercise 1

1. Ensure C:\DOS is resident in the path line of your autoexec.bat.

2. Connect the JANUS DCD to a host computer via cable.

3. Type INTERSVR. The INTERSVR screen will be displayed on the PC.

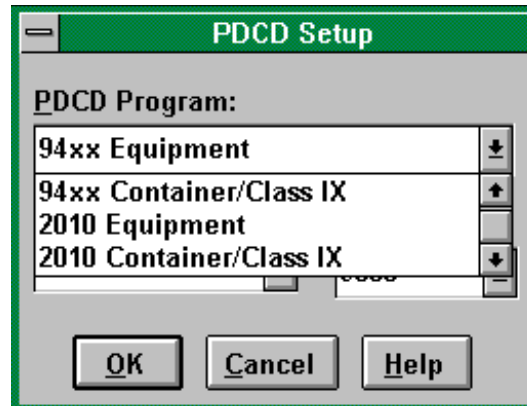
4. Reboot the JANUS DCD by pressing "CTRL", then "ALT", then the Function key and "DELETE".

5. The Microsoft Interlink Server software, all available drives on the host computer and all available drives on the DCD will be displayed on the host computer.

6. You will now use the drive letter on the DCD that is directly across from the drive letter containing the LOG AIS programs on the host computer to type the following on the DCD:
PUTIMAGE [*Drive Letter*]:\LOGAIS\BIN\JANUS.IMG

7. The JANUS will download this image file and bring up its menu. This ends the special download. Select Option 2, Download on the DCD, to install a MDSS II program from the PC.

2. LOGMARS Setup. Selecting LOGMARS from the setup option presents you with the PDCD setup window. This window is divided into four drop down selection options: Use the following steps to configure the PDCD:



Practical Exercise 2

1. Select <AIT>, <SETUP>, <LOGMARS>.

2. Select one of the DCD Program types in the DCD Program box:

.- Equipment Program. The Equipment DCD Program is designed to accommodate all needed fields for new equipment records, scans key data elements required for record uniqueness and loads all data elements needed for MPF operations with the DCD.

- Container/Class IX Program. The Container/Class IX DCD Program is designed for inventory, tracking locations and updating information pertaining to Containers and Class IX items. The Container/Class IX DCD program enables you to collect data for Containers and the Vidmar Cabinets. This program recognizes the association type used for the cabinets (Inventoried) and always keeps parts associated to the parent cabinet. Even if the container changes location, the contents of the cabinets remain associated to the parent cabinet.

3. Select the device used to transfer data. (Wireless modem or cable upload.)

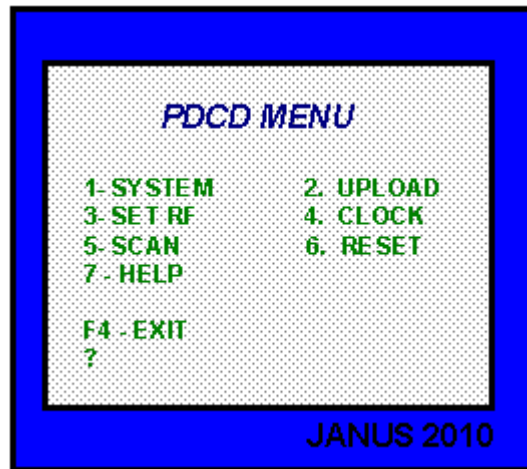
4. Select the Baud Rate (Default Baud rate for Intermec Devices is 9600).

5. Select the COM port which will be used.

6. Select [OK]. Follow the on-screen instructions exactly.

3. PDCD Operations. The items listed below appear on the PDCD main menu.

a. Main Menu items



(1) **System**. This option allows the user to select the purpose of the scanning.

(a) **Collecting Inventory**. Collecting inventory with the Equipment PDCD Program enables you to compile complete record information with the PDCD. Each record requires you to enter required field information. Once all requested fields are entered, you are prompted for the next record's information. The difference between this Inventory option and the Track Locations option is that much more information is required for each record. This is done in an effort to provide the most detailed information about that individual record including dimensional data and quantities as well as its location. Use the following steps to collect inventory:

- Select the System main menu option (#1).
- Select the Collect Inventory option (#1).
- Select Y or N for the "Keep Previous NSN" option.
- Select PID , SN or Both option.
- Select English or Metric option.
- Prompt stating, "You selected to use Collect Inventory." appears.
- Select the Scan command to begin scanning.

(b) **Tracking Locations**. The Tracking Locations option in the Equipment PDCD Program enables you to enter record information for new locations. The location change is updated in the system database when the scanned records are downloaded. This functionality enables you to track the movement of equipment from location to location. Use the following steps to track locations:

- Select the System main menu option (#1).
- Select the Track Locations option (#2).
- Select Y or N for the Keep Previous NSN option.
- Select PKG ID , SN or Both option.
- Prompt stating, "You selected to use track by Location." appears.
- Select the Scan command to begin scanning.

(c) **Updating Height and Weight.** The Updating height (HGT) and weight (WGT) option in the Equipment PDCD Program enables you to update the equipment's dimensional data. Use the following steps to update:

- Select the System main menu option (#1).
- Select the Update HGT/WGT option (#3).
- Select Y or N for the Keep Previous NSN option.
- Select PKG ID , SN or Both option.
- Select English or Metric option.
- Prompt stating, "You selected to update HGT & WGT." appears.
- Select the Scan command to begin scanning.

(d) **Scanning TCNs.** Scanning Transportation Control Numbers (TCNs) with the Equipment PDCD Program enables you to scan for the TCN field of LOGMARS labels. The most recent scanned TCN values are updated to the system database which updates the TCN field in the Unit Deployment List (UDL) table. Use the following steps to scan TCNs:

- Select the System main menu (#1).
- Select the More option [F3] and the Scan TCN option (#4).
- A prompt stating, "You selected to use Scan TCN" appears.
- Select the Scan command to begin scanning.

(NOTE: In order to configure your DCD to accept \$\$\$ in the TCN, use the following steps:

- a. Go to 'Configure' (#3).
- b. Go to 'Sym', select [Enter].
- c. Go to 'Code 39', select [Enter].
- d. Go to 'ASCII', non-full.
- e. Go to 'OK', select [Enter].
- f. Go to 'File'.
- g. Select 'Exit'.
- h. Select 'Yes'.

(e) **Customizing the PDCD Program.** Customizing the PDCD Program enables you to setup the PDCD to prompt for particular fields. You must enter the key fields as a default and select other fields which are necessary for the labels. Use the following steps to customize the PDCD Program:

- Select the System main menu option (#1) and press the Enter key.
- Select the More option [F3] and the Customize option (#5).
- Select Y or N for each option as desired.
- Prompt stating, "You selected to use customize" appears.
- Select the Scan command to begin scanning.

(2) **Upload Option.**

(a) **Wireless ON**. Selecting the <WIRELESS ON> option will initiate wireless transfer of data via wireless modem as soon as scanning begins. During the scanning process you will be able to tell you are in wireless mode by the presence of a time clock in the bottom left hand corner of the PDCD display. [Note: Actual data transfer will not occur until the time clock reaches zero. The parameters for setting the clock default is done under the **Set RF** menu].

(b) **Wireless OFF**. Selecting <WIRELESS OFF> allows you to switch to one of the other scanning modes.

(c) **Cable Upload**. Selecting <CABLE UPLOAD> allows you to transfer data from the PDCD to your Host computer via cable.

(d) **Wireless Upload**. Selecting <WIRELESS UPLOAD> allows you to transmit data to the Host computer via wireless modem immediately.

(3) **Set RF**. The Set RF selection allows you to configure the PDCD for use with Esteem Wireless Modems. Before setting the PDCD for wireless modem operations, it is recommended that the user configure with the Esteem wireless modem Setup. See Esteem Wireless Modem Section for more details.

(4) **Set Clock**. Set Clock allows you to enter the correct system time and date. It is critical to the Tracking process that the correct Date and Time are entered into the PDCD. If correct Time and Date stamps are not used, it is very difficult to find previous locations of equipment. Selecting this option displays the PDCD Time and date and asks you if you want to change the current location. Use the following steps to set the clock:

- (a) Select the Clock option.
- (b) Select to change the current date by entering Y for Yes.
- (c) You are prompted to set the year, month and day.
- (d) After the date has been set, you are prompted to set the time.
- (e) Enter the correct time at each prompt (hour and minutes).
- (f) When done you receive the update message.

(5) **Scan**. After the user has made the appropriate selection under the System Option (#1), the next step is to select the Scan Option (#5). The user is asked to verify the Location, MSE and Device Number. The user is then prompted for the UIC, NSN and the PKG ID - either enter it manually or scan the bar code. During the scanning process the user has several additional options:

(a) **Associating Records**. This option allows you to associate records. Associating allows you to designate a Parent record and associate Child records to it. You may designate any record a parent and any records as children. You must also assign a link type to the records every time you select to associate. Use the following steps to associate records:

- Select the Scan command.
- Select [F2] to reveal the Scan options.

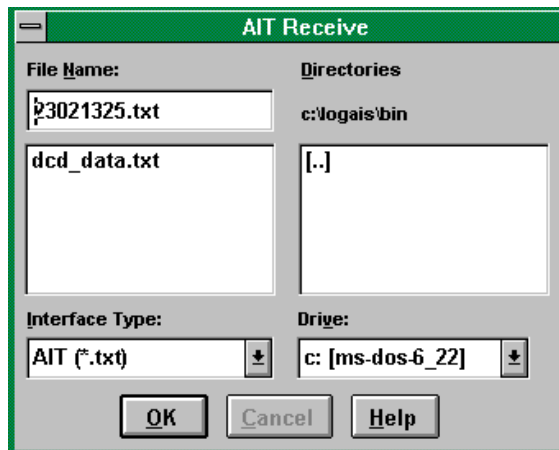
- Select the Associate command from the PDCD menu.
- Enter the Parent record's UIC, PKG ID and NSN.
- Enter the Child record's UIC, PKG ID and NSN.

(b) Unassociating Records. If you need to Unassociate records in the PDCD, you can perform this function while in Scan Mode. Selecting this option asks you to identify the Parent record. You are then prompted to identify the Child records to unassociate. Use the following steps to unassociate records:

- Select the Scan (#5) command.
- Select Menu option [F2] to reveal the Scan options.
- Select the Unassociate command [F2] from the PDCD menu.
- Enter the Parent records UIC, NSN and PKG ID information.
- Enter the Child records UIC, NSN and PKG ID information.

(c) Scroll / Delete Feature. The Scroll feature enables you to scroll backwards or forwards through previously scanned records and delete records. The display shows records currently in the system by displaying its PID and NSN. You have the choice to delete an unwanted record. In the case of deletion during the scrolling phase, the PDCD erases the associated record entries and places the word "deleted" into the Location and NSN fields. The Location field is used to keep track of the number of deleted records during the Receive AIT Data phase. The NSN field is used to show that the record has been deleted should you scroll onto that particular record again in the PDCD. Use the following steps to scroll/delete:

- You must be in the Scan mode (Option #5).
- Select Menu option [F2].
- Select More option [F3].
- Select Scroll option [F1].
- Once in the Scrolling option use the following to maneuver around. [F1] enables you to scroll backward through the records. [F2] enables you to scroll forward through the records. [F3] enables you to delete the record that you are currently scrolled on. You are asked to confirm the deletion of the record. [F4] returns you to the Menu Options Screen.



4. Receiving Data

a. **Receive Data Command.** The Receive Data command enables you to upload the PDCD scan data to a floppy diskette or hard drive. Scan data will be presented to you on the screen in a temporary table called Newcargo so that you may edit it prior to saving it to disk. You will have the option of saving this data to the table view or as a file to the desired floppy or hard disk location. Once LOGMARS data is received and saved to the Newcargo table or placed on disk, you will use the Interfaces menu option to bring the data into the system via the AIT import.

You are kept up to date on the status of the data received by the Received Data Screen. The Received LOGMARS Data Screen shows how many records have been received at each of the locations used while scanning. Any locations not in the Location table at the time of the receive operations will be labeled as unknown in the Receive window.

Not until the data is imported will these unknown locations cause the records to be rejected. You must insert the valid location code into the Location table for these records to be accepted. There will always be a Location code for DELETED records. This will notify you of the number of records you deleted while using the PDCD. This is needed because the PDCD merely labels a deleted record it does not actually remove it from memory. For example if you scan 10 records and then delete 3 records, your record count will be 7 scanned and 3 deleted which still adds up to 10 records processed by the PDCD. **NOTE:** If you are using MITLA technology, there is no need to Receive the data onto floppy or hard disk. The Read Tags option in the MITLA workbench serves this purpose by placing data from the RF Tags into the MITLA RF Tag table.

AIT Receive [c:\logais\bin\28031032]

Location	Records Received
LOT 1	21
LMCC	12
BOG	9
AACG	9
PORT	5
port	2
DELETED	0
Total Received:	58

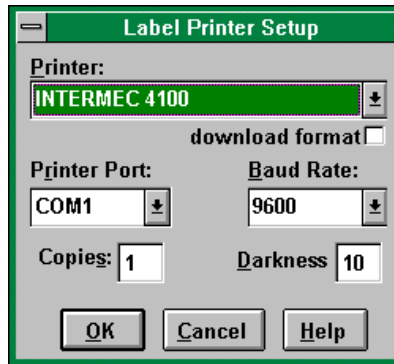
writing buffered data

OK Cancel Help

b. Receive Data Procedures. Use the following steps to receive data via a cable:

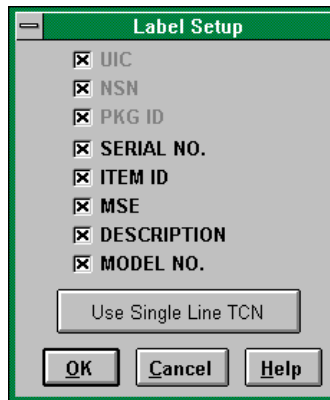
- (1) On the PDCD, you must execute the Upload option (#2) and then select the Cable option (#3).
- (2) You will be prompted to press any key on the PDCD to begin data transfer. Leave the PDCD at this point until you have the host computer set up to receive data.
- (3) On the computer, select <AIT>, <RECEIVE DATA>.
- (4) The Receive AIT window is displayed.
- (5) Select the AIT option from the Interface Type box.
- (6) Either select the default DTG or type a file name for the import in the File Name box.
- (7) Select the source drive in the Drive box.
- (8) Select the source directory in the Directories box.
- (9) Select the OK button.
- (10) Now press any key on the PDCD to begin the process of receiving data.
- (11) The record count is shown in the Receive Data screen.
- (12) After receiving the data, the user would have to select <INTERFACES>, <IMPORT> to place the data in the Newcargo table for editing.
- (13) To Post the scan data to the current Plans UDL table, select <TOOLS>, <POST TO UDL>.

PRINTING LABELS



1. Label Printer Command. The Label Printer command enables you to choose a default label printer, a default number of copies, a default darkness level and a default printer port. Intermec label printers require that the operation format be downloaded prior to printing labels from LOG AIS systems. This procedure only needs to be downloaded once so that the system will know if it sending labels to an 8646 or 4100 model printer. The 8646 and 4100 models are supported by the system and are the only printers requiring a format download. Use the following steps to configure the label printer:

- a. Select <AIT>, <SETUP>, <LABEL PRINTER>.
- b. Select the appropriate printer in the Printer box:
 - (1) INTERMEC 4100
 - (2) INTERMEC 8646
 - (3) Windows printer (laser)
- c. Select a COM or parallel port in the Printer Port box.
- d. Select the number of copies to be printed in the Copies box.
- e. Select the Baud Rate in the Baud Rate box (standard value is 9600).
- f. Select the darkness level to be printed on the labels in the Darkness box.
- g. Click on the download format box to configure the printer.
- h. Select the OK button.



2. Label Command. Use the Setup Label option to identify which fields you want displayed on the standard equipment label. The standard equipment label is generated from the UDL table and the default format in the system is to print all fields on the LOGMARS label. Configuring the Label Setup Window procedures:

- a. Select <AIT>, <SETUP>, <LABEL>. The Label Setup window is displayed.
- b. All fields are selected by default.
- c. De-select fields which you do not need printed by clicking on the field name. Fields which are selected to print on the labels are displayed with an x in the box.
- d. Select the OK button to save your label format settings.

NOTE: The UIC, NSN and PKG ID fields always remain selected as they are key fields in the UDL. For Intermec printers, the pre-defined label formats must exist in the appropriate LOG AIS directory prior to downloading/printing labels. When you have completed the label setup, the values are saved into the LABELPARMS Table for future reference.

Turbo Label				
UIC	NSN	PKG ID	SERIAL NUMBER	ITEM
M12201	1560HELO000006	HELO1	HELO1	HELOC
M12201	1015003229752	GUN1	GUN1	E0640

3. Turbo Label Command. Turbo Label is designed to enable on-the-fly creation of equipment labels. Lookups are available for the UIC, NSN, and Item ID fields. All related information will be filled in for the NSN and Item ID combination selected. The Turbo label option is available from the AIT menu option. Once data is filled in the Turbo label table, you may print the selected labels by using the Print Labels option from the AIT menu. The resulting label(s) will print with the format set under the Label command under Setup. Use the following steps to create a turbo label:

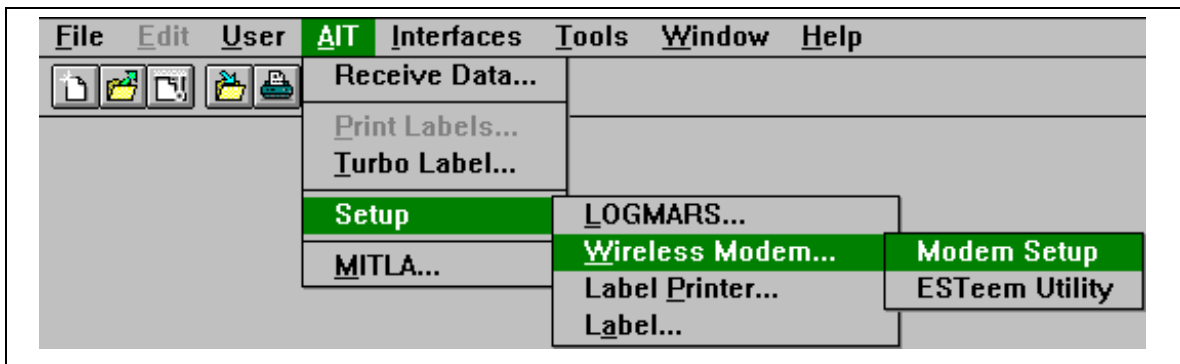
- a. Select <AIT>, <TURBO LABEL>, Turbo label window appears.
- b. Enter data in the UIC, NSN and PKG ID fields and any other desired label fields.
- c. Select <AIT>, <PRINT LABELS> to print the labels.

NOTE: If you prefer to use a system generated Package ID, tab past the PKG ID field and a PKG ID is generated and displayed by the system automatically.

4. Print Labels Command. The Print Labels command enables you to generate LOGMARS labels from the system UDL table. You **MUST** first select the records you wish to print labels for by highlighting them. Once highlighted, selecting the Print Labels command will print the labels to the selected Label printer. Use the following steps to print labels:

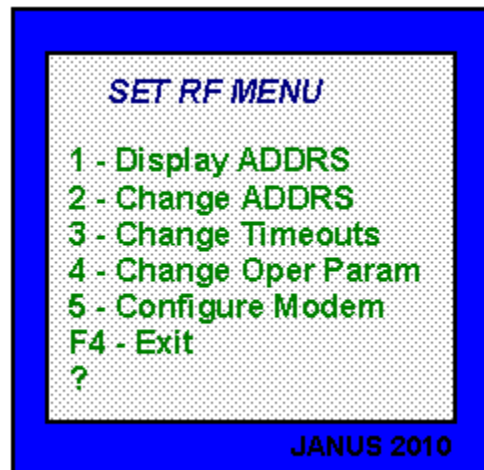
- a. Select the records to print as labels from the UDL table for the current Plan.
- b. Select <AIT>, <PRINT LABELS>.
- c. MDSS prompts you with a choice between standar green labels or military shipping labels. Select the standard green labels.
- d. The selected records are printed as LOGMARS labels.

ESTEEM WIRELESS MODEMS



1. Wireless Modem Setup. You may select to use the Esteem wireless modem as the setup and transmission device during LOGMARS operations. You must connect one modem to the PDCD and another Esteem wireless modem to the host computer. The user can use the Esteem wireless utility program to configure and run diagnostics on Esteem wireless modems. Within this program you are able to configure the parameters needed for one or more modems to communicate with each other. The Esteem utility program provides help topics to assist with all modem setup and diagnostics. You are able to set certain modem parameters from the PDCD itself by using the Set RF option from the PDCD main menu. This is necessary in order to effectively communicate between the two hardware components. Also, you have the ability to set the address of a Repeater modem if needed.

2. PDCD and Modem Operations (SET RF)



a. Set RF Menu.

(1) **Display ADDRS.** The Display Address menu option allows you to view the PDCD modem address along with the destination modem address and whether or not repeaters are being used. If using the 94XX, pressing [Enter] displays the addresses of destination #2 and destination #3. Pressing [Enter] a third time returns you to the Set RF on the main menu.

(2) **Change ADDRS.** The Change Address menu option allows you to set and/or edit the addresses displayed using the previous menu option. Selecting this option presents you with the PDCD modem address, giving you the option of changing that address.

To change the current modem addresses displayed, press "Y" followed by [Enter]. This prompts you to type in the new address for the PDCD. Type in the new address and press [Enter]. Another screen follows asking you to verify the new address by pressing "Y" followed by [Enter]. Doing so brings up the various destination modem addresses allowing you to make the appropriate changes to these as well. If the incorrect address was entered, press "N" followed by [Enter]. This brings up the original address edit screen allowing you to enter in the correct address.

After the address is entered, the next screen asks for the name of the destination modem. A name is necessary in order to assist the user with problem identification in cases when transmission errors occur. For instance, if the home modem was not set up correctly, a message displays on the PDCD saying that a problem exists with the home modem, providing the name assigned by the user. Any name can be assigned to the home modem, as long as it contains at least five characters.

The screen that follows asks if you need a repeater. If repeaters are needed for a scanning exercise, answer "Y". Enter a numeric address between 1 and 252 for the repeater. Repeat this for any additional repeaters required. If repeaters are not required, answer "N" to continue with the modem configuration.

(3) **Change Timeouts.** Selecting the Change Timeouts menu option allows you to change the amount of time the PDCD waits for input from the user before proceeding to transmit records (Change Y/N). You will need to have the "wireless on" option activated to have data transmitted automatically. Each time you press the button on the scanner gun amount of time the PDCD waits before attempting to send records is reset. The default amount of time is 3.0 minutes. Lowering this number speeds up the transmit process.

(4) **Change Oper Param.** The Change Operating Parameters menu option allows you to change the parameters in the Esteem wireless modem Setup program. The first option displayed after selecting this option allows you to change the number of tries the modem attempts to connect to a busy destination modem before aborting. The default is 20 tries. Decreasing this number reduces the time it takes to determine the destination modem is not operating correctly.

-After setting the number of retries the PDCD attempts to connect to another modem, the PDCD asks you if you need to change the time between the retries. The default for this option is 1 second, therefore changing this option is not recommended because it only increases the time it takes to transmit data. Once all the changes have been made, the PDCD returns you to the Set RF sub-menu. The final menu option available is the Configure Modem menu option.

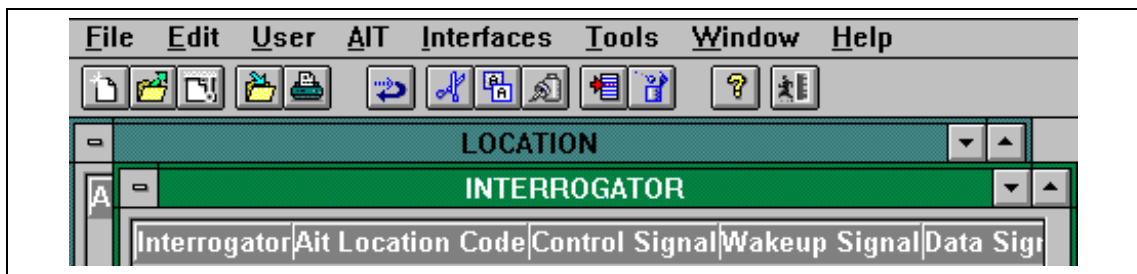
(5) **Configure Modem.** After setting the address for the PDCD modem, destination modem addresses, and all repeater modem addresses, you will need to send this information to your modem by selecting to Configure Modem (#5). It is mandatory that you configure the frequency and squelch for the wireless modems using the default wireless modem setup found under the Setup LOGMARS menu selection on your PC.

MITLA

1. MITLA Overview. MITLA (Microcircuit Technology in Logistics Applications) is a non contact interface used to write and read data from Radio Frequency (RF) devices. Selecting this option from the AIT menu will initialize the MITLA workbench where you will be able to identify RF Tags, Read and Write to tags and Post the current Plans UDL table.

The standard use for MITLA in the LOG AIS family of systems will be to read/write data to Radio Frequency Tags which will be placed on equipment. The data on the RF tags will contain information about the item it is placed on and each data element will relate to a specific field in the UDL table. Tags are then read by an interrogator unit and the data transferred to a host PC into the RF Tag table. This RF table is a temporary location for the records. The table may be edited prior to Posting records permanently to the UDL for the current Plan. Once MITLA data is resident in the RF tag table, it may be posted to the active Plans UDL table by using the Post to UDL option from the Tools menu. It is necessary to setup MITLA devices prior to using them to Read and Write to RF Tags.

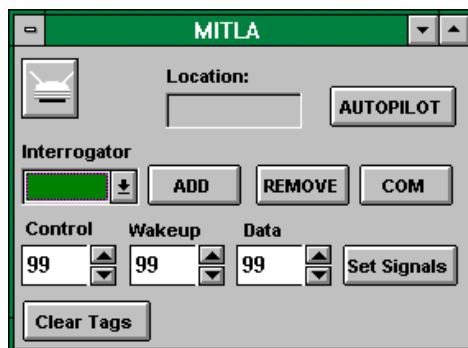
2. MITLA Workbench. The following is a step by step description of the MITLA workbench functions.



a. Setting up the Interrogator

- (1) Select <USER>, <PLAN DATA>, <LOCATION>. Ensure the Location table has valid locations.
- (2) Select <USER>, <PLAN DATA>, <INTERROGATOR>.
- (3) Enter the interrogator ID to identify the interrogator.
- (4) Enter a valid location from the Location table.
- (5) Enter the signal strengths for the interrogator (must be filled in 1 to 99). This Gain adjustment is used to more precisely define the area which an interrogator scans. This is noticeably important when multiple Interrogators are used at the same site.
- (6) Select <FILE>, <SAVE>. Select <FILE>, <CLOSE VIEW>.
- (7) Select <USER>, <MITLA>.
- (8) Select the drop down list box next to the interrogator icon.
- (9) The Interrogators defined in the interrogator table displays on the screen.
- (10) Select an interrogator number. Associated location fills in automatically.
- (11) Click on the [ADD] button to activate the interrogator.
- (12) You may now perform any Scan, Read or Write functions.

b. Setting the RF Tag ID. The MITLA RF Tags will always have unique RF IDs. These IDs are not user defined and cannot be changed. The RF Tag ID is also printed on the exterior of the tags for visual recognition. The RF Tag ID will be used to identify the tag which will be written to or read from the interrogator unit.



c. Writing to RF Tags. To place data on an RF tag that will later be read by an interrogator unit, you must first write the data to that particular tag. You must identify the interrogator ID and the RF Tag ID which will allow for that particular interrogator to write to that particular RF Tag. Use the following steps to write to an RF tag:

- (1) Set up interrogator ID and Location.
- (2) Select <AIT>, <MITLA>. MITLA Workbench appears.
- (3) Select an interrogator ID from the drop down list box.
- (4) Click on the [ADD] button.
- (5) Select <TOOLS>, <SCAN>. Available RF Tags are listed in the Tag table.
- (6) Select the tag to write to from the table.
- (7) Select the MITLA UDL record to place on the Tag by highlighting it.
- (8) Select <TOOLS>, <WRITE TAG>. Data is written to the tag.

d. Scanning the RF Tags. Scanning RF Tags is the process of collecting the data stored in them by an interrogator. This is the equivalent to Receiving LOGMARS data onto a floppy or hard drive. The RF Tag enables the interrogator to recognize its presence. The tag IDs are listed in the RF Tag table of the host system when the Read Tags option is selected from the Tools menu. You must select an interrogator first from the available list. The interrogator provides the Tag IDs for the RF Tags in its reading range. Use the following steps to scan RF tags:

- (1) Set up interrogator ID and Location.
- (2) Select <AIT>, <MITLA>. MITLA Workbench appears.
- (3) Select an interrogator ID from the drop down list box.
- (4) Click on the [ADD] button.
- (5) Select <TOOLS>, <SCAN>. Available RF Tags are listed in the Tag table.

e. Updating the Database

RF Tags read by interrogator may be updated immediately to the current Plans database by highlighting the records in the MITLA Tag window and selecting <POST TO UDL> from the <TOOLS> menu. The Scan RF Tag option acts as the equivalent of the LOGMARS Receive data command. The RF Tag information in the RF Tag table may be posted directly to the current Plans UDL table while in the MITLA workbench. The Location field in the UDL will automatically be updated with the current interrogator Location. This will effectively allow equipment to be tracked by Location code.

BACKGROUND. In 1976, the Office of the Under Secretary of Defense (Production and Logistics) chartered the Joint Service Group (JSG) for LOGMARS to identify a standard machine-readable symbology and to recommend applications for use of the symbology. In 1981, the Secretary of Defense accepted the recommendations of the LOGMARS JSG to use the standard 3-of-9 bar code for logistics applications. The LOGMARS technology was recommended to mark vendors supplies and equipment, transportation containers, and documents. Microcircuitry was another technology identified that complements and may be used in conjunction with LOGMARS. On 15 November 1984, the Assistant Secretary of Defense

(Manpower, Installations and Logistics) approved the recommendation of the Senior Advisory Group (SAG) that its charter be expanded to encompass the Microcircuit Technology in Logistics Applications (MITLA).

Within the family of the MAGTF II/ LOG AIS family, the AIT technology is easily transferable due to its modular design, flexibility and robustness. AIT is currently used in MDSS II, TC AIMS, and CAEMS.

USING AIT. The LOG AIS AIT Module involves the use of Portable Data Collection Devices (Intermec models 9440, 9462, and JANUS 2010) to read bar-code, or LOGMARS labels on equipment and supplies. Scanning eliminates manual keypunch entry for data that already exists, so LOG AIS users can also create chawks, update CAEMS load plans, dispatch vehicles, and perform other logistic planning & operational functions. Scan data is placed into a cargo trace table which can be used to identify the time & date that an equipment item was at a specific location. If items are associated to others with the Linker module in MDSS II, then only the parent records need to be scanned to update the database and maintain visibility of "child" records.

1. Tracking Equipment Locations. The general concept of employment for DCD operations involves using "rover" DCD's to scan labels at designated control points so that the LOG AIS section can keep the MAGTF commander apprised of port, airfield, beach, convoy or other logistical operations where throughput tracking may be required. The DCDs send their scan data to a host computer, normally at the AAOG or LMCC which contains the "Master" MDSS II database. The DCD scans are transmitted to the Host computer either directly with an RS232 cable or via ESTeem Wireless Modem (model 85 or 95). The modems are just like having an extended RS 232 cable and the MDSS II operations are the same regardless of upload type. When using the wireless modems, some can be configured as repeaters, to extend the range of the upload. The wireless modems are RF devices which send Line Of Sight (LOS) transmissions to the host computer. They can be programmed using EST software or the DCD with MDSS II.

2. Operational Scenario. Using AIT can greatly facilitate the timely flow of tracking information to commanders and their logistics staffs. Some of the deployment phases where AIT has proven extremely useful include:

a. Marshaling. Involves organizing and preparing equipment for movement at the unit marshaling area. The LMCC may want to include an AIT checkpoint at unit marshaling areas to track the arrival and departure of equipment at this key control point.

b. Movement to the Point of Embarkation (POE). Involves convoy control and coordination. This process may also include a Washdown Site and a Customs Inspection Station. Air Movements will also include a Joint Inspection (JI) with the ALCE and DACG personnel. The LMCC coordinates all movements from the unit marshaling area to the POE. Each control point (Washdown site, Customs Inspection, JI site) may all require scanning, so the MAGTF Commander can be readily updated with asset visibility.

c. **Arrival & Staging at the Port, Beach or Airfield.** Another scan point may include the entrance to the POE'S, so the LMCC knows when convoys arrive at their embarkation destination. Here, unit's equipment is staged by ship deck or equipment type for sea embarkation and by chalk for air embarkation. Again, scanning eliminates manual keypunch entry for data that already exists, so LOG AIS users can also create chalks, update CAEMS load plans and perform other logistic planning functions.

d. **Embarkation.** As supplies and equipment are loaded aboard each ship and airplane, they are scanned as they are loaded or placed. This location data is then uploaded back into the computer, and ultimately into JOPES (soon to be GCCS) for worldwide intransit visibility using MDSS II and MAGTF II. Of any scan points that should be planned, the final loading onto the strategic lift asset (aircraft or ship) is the most important one.

e. **Command and Control.** MPF Planners utilize the MAGTF II/ LOG AIS family of systems to maintain asset visibility and support logistic command and control of MAGTF assets. MDSS II is the central database that feeds the other MAGTF II/ LOG AIS systems with data used for deployment planning and execution. During MPF operations, LOGMARS Scanners (DCDs) have been used to keep the AAOG aware of offload and equipment/container attainment status. A network of DCDs is set up using wireless modems to send real-time data to a host computer, where a central database is maintained.

MAINTENANCE

1. **Batteries.** There are two batteries in the Janus 2010 reader: the backup battery and battery pack.

a. **Backup Battery.** The backup battery is a lithium battery that backs up the RAM and clock when the battery pack is discharged or removed from the reader. The lithium battery will back up the RAM and clock for at least three months with the battery pack removed.

If you are operating the reader while the backup battery is discharged, the reader beeps every minute and the keypad emits a double click when a key is pressed. The backup battery should be replaced as soon as possible by an Intermec service technician. ***The lithium battery can only be replaced by a trained Intermec service technician. Operating the unit will void warranty and may cause damage to internal components.***

To prolong the life of the backup battery, a charged battery pack should always be installed in the reader. Whenever the battery pack is removed, it should be replaced immediately with a spare charged battery pack. Leaving the reader without a charged battery pack, even for a short time, prematurely discharges the lithium battery.

b. **Battery Pack.** The main battery for the reader is a NiCad battery pack. If operating the reader when the battery pack charge goes low, the reader will beep and the battery icon will turn on and off. You should replace or recharge the battery pack immediately. If you continue to operate the reader without charging the battery pack, the battery will become critically low. When the battery pack is critical, the battery icon turns on and the reader beeps 15 seconds for 1 minute then the reader turns off.

c. Entering Storage Mode. If you are not going to use the reader for the next couple of months, it should be put in storage mode to preserve the life of the back up battery. *Any data stored in the reader's memory is lost when you enter storage mode.* To put the reader in storage mode:

- (1) Turn the reader off, then press "F3", "2", "left-arrow", "2", "1/0".
- (2) Using **down arrow** highlight Storage.
- (3) Press **Enter**.

When the reader is turned on while in storage mode:

- (1) If the password is set, the reader will request the password.
- (2) Once the password is entered, the Boot Loader menu is displayed.
- (3) From the menu, select Reboot. The reader will execute POST then ask if you want to exit storage mode.
- (4) Press **Enter** to exit storage mode and continue booting the reader. [Press **Esc** to shut the reader off and remain in storage mode.]

d. Backlight On/Off. The backlight assists in viewing the reader display in dimly lit environments. To turn the backlight on: Press "**Compound function key**", "**Alt**", "**Enter**" Enters control mode and toggles the backlight on if it is off. To turn the backlight off: Press "**Compound function key**", "**Alt**", "**Enter**" Enters control mode and toggles the backlight off if it is on.

2. Warranty. All products are warranted for one year (12 months) from date of shipment unless otherwise stated. A list of extended warranties are as follows:

<u>Description</u>	<u>Warranty (in mos)</u>
JANUS 2010 DCD	60
1545 Bar Code Scanner	24
4100 Bar Code Printer	36
ESTeem Model 95 Wireless Modem	24
ESTeem Model 96F Wireless Modem	12

All warranty repairs will be performed at the Maintenance Repair Center (MRC) designated for the area in which the equipment is located. Intermec will pay for all shipping costs for items retained for repair during the warranty period. Procedures for returning items to the MRC for repair during the warranty period are as follows:

When requesting warranty service, it is extremely important you notify the Intermec representative that the equipment you are returning was purchased from the AIT contract. [AIT hardware is identified with the letter "T" in the model and/or configuration number. The Intermec representative can also let you know if the hardware is still under warranty.]

- a. All items returned for repair will be issued and tracked by a Return Material Authorization (RMA) number.
- b. The activity requesting the repair will contact their assigned MRC, request an RMA number and package the item in accordance with standard practice to ensure safe delivery to Intermec. The RMA number must be clearly marked on the outside of the shipping container.
- c. Upon receipt, Intermec will inspect the item and notify the requesting activity of any discrepancy or shortages, including any noticeable damage.
- d. If the item is determined to be unserviceable, Intermec will replace the item unless it is determined that the damage was due to the fault or negligence of the Government.
- e. Intermec will repair and return items within two (2) working days.

3. Maintenance Repair Centers (MRC). MRCs are located in strategic areas both within the US (CONUS) and Outside the US (OCONUS) to provide repairs and technical support for all AIT products. AIT users are encouraged to contact their nearest Intermec Service Office, (800) 755-5505, for technical assistance before contacting the MRCs.

Each MRC will provide all warranty mail-in/carry-in maintenance and all non-warranty, on-call, per-incident and mail-in/carry-in maintenance, as well as provide technical assistance to users of AIT equipment.

The boundary between the areas serviced by the MRCs is depicted below. It is formed by the eastern borders of Montana, Wyoming, Colorado, and New Mexico. This border was established in order to minimize shipping times, costs, and minimize service response time. Address and telephone numbers of the CONUS MRCs are:

Western MRC:

6001 36th Avenue West
P.O. Box 4280
Everett, WA 98203-9280
Phone: (206) 348-2706
Fax: 206/356-1688

Eastern MRC:

4005 S. Mendenhall Road, Suite 10
Memphis, TN 38115-5946
Phone: (901) 541-3495
Fax: 901/541-3489

Address and telephone numbers of the OCONUS MRCs are:

Japan:

Matsushita Electric Industrial Co., Ltd.
1-61, Shiromi 2 Chome
Chuo-Ku
Osaka 540 Japan 4863
Phone: 81-6-946-4863
Fax: 81-6-946-4809
Telex: 5228771

Hawaii:

Advanced Data Corp.
1613 Houghtailing Street, Room 2
Honolulu, HI 96817-1968
Phone: (808) 842-6589
Fax: 808/842-6689

4. Other Maintenance Information

a. During normal working hours, assistance can be obtained by contacting your designated MRC or local Intermec Service Facility. Intermec maintains a hot-line seven days a week, 24 hours a day. The number is 1-800-892-7007.

b. Contingency Operations Maintenance. In case of contingency operations, Intermec will provide personnel, tools and a spares kit to support AIT components in the contingency area, either by establishing a separate MRC or expanding an existing MRC.

c. Maintenance Periods. Maintenance may only be ordered after expiration of the warranty period. This period varies from a minimum of 12 months to a maximum of 5 years depending upon the product ordered. Ensure your equipment is out of warranty before ordering.

d. Ordering Maintenance. All maintenance acquired through the AIT contract will be ordered by CMC (LBC) IAW MCO P4000.51A, AIT Policy.

e. Maintenance Performance Dates. Maintenance performance dates must be specified in the delivery order and will commence within 30 days of receipt of an approved and correct order by Intermec unless a later date is specified in the delivery order.

APPENDIX A - DCD MENU SCREENS

NOTE: The screens shown below reflect the DCD screens on the JANUS 2010 model DCD. Some of the screens will look different on the JANUS than on the Intermec 9462/9440 DCDs because there is more room on the JANUS 2010 screen. Although the menu options may appear slightly differently on the Intermec 9462/9440 DCDs, all of the functions are the same on both model types.

1. Turn on the DCD. The first screen you see will look like this.

Press 1 - Run

1 - Run
2 - Download
3 - Configure
Enter
Choice: _

2. At the next screen, press the Enter key on the DCD.

LOGAIS DATA
COLLECTION SYSTEM
VERSION 4.0x

PRESS <ENTER>

3. You are prompted to set the date. Enter the date on the next three screens, that is first the year, then month, then day.

Date is: MM/DD/YY
Change Date?
(Y/N): N _

4. Next, set the time. Answer "Y" to the Change Time? prompt to update the time, if the time displayed is not correct. Enter hours, then enter minutes.

After you are done, you will be prompted with:
"Date and Time Updated"

If you made a mistake, you can use option #4 on the next (Main Menu) screen to correct the date and time.

Time is: HH/MM
Change Time?

(Y/N): N _

5. You will next see the Main DCD Menu. This screen shows you all of the main options available on the DCD.

Press 1 - System

EQUIPMENT PROGRAM
MAIN MENU 4.0

1 - SYSTEM	2 -
UPLOAD	
3 - SET RF	4 -
CLOCK	
5 - SCAN	6 -
RESET	
F4 Exit	
? _	

6. Press 2 - Track Locations.

1- Collect Inventory
2 - Track Locations
3 - Update Hgt / Wgt
4 - Scan TCN
5 - Customize
F4 - Exit
—

7. You will be shown a series of prompts when you select "Track Locations." The first asks you if you want to keep the previous NSN. If you are scanning many of the same items, you can enter "Y" to skip scanning the NSN bar code on all of the labels. Normally, you will select "N" in case you are scanning many different items.

Press "N".

Keep Previous NSN

(Y/N): _

8. Next, as you only want to scan the Package ID, select 1- PKG ID Only. If you wanted to scan the serial number, you would select option 2 - Ser # Only.

When you are done, you will be prompted "You selected to use Track by Locations".

1 - PKG ID Only

2 - Ser # Only

3 - Use Both

_

9. You are next returned to the main menu. You are now ready to scan.

Select 5 - Scan.

EQUIPMENT PROGRAM
MAIN MENU 4.0

1 - SYSTEM	2 -
UPLOAD	
3 - SET RF	4 -
CLOCK	
5 - SCAN	6 -
RESET	
F4 Exit	
? _	

10. Now we have to tell the DCD where we are. You must enter a location that matches the LOGAIS AIT Location Table. Your MDSSII section will tell you what location to enter.

For now, type in PORT, and click enter.

The spelling must match exactly the spelling in the AIT Location table, but the case does not matter.

F2 - Restart
Enter Location
-> []

11. You are then prompted to enter the Major Subordinate Element code. For now, leave this blank. By leaving this field blank, you will not overwrite any of the MSE assignments in the database.

F2 - Restart
Enter MSE
-> []

12. You are next prompted for a device number of the DCD. Enter the last two digits of the serial number shown on the back of your data collection device.

F2 - Restart
Enter Device #
-> [0]

13. Now you are ready to start scanning the LOGMARS labels. At the top of the screen, you can see how many labels you have scanned so far (the display should start out at zero).

Scan the first line (UIC bar code) on the LOGMARS Label. Hold the laser scanner about 6 to 8 inches from the label.

Rec # 0
DELETED
F2 - Menu
F3 - Delete
F4 - Exit

Enter UIC
-> []

F2 - Restart
Enter NSN
-> []

```
F1 - GENID
F2 - Restart
Enter PKG ID
-> [          ]
```

Rec # 1
F2 - Menu
F3 - Delete
F4 - Exit

Enter UIC
-> [M28280]

Menu Options

- 1 - Associate
- 2 - UN-Associate
- 3 - Scroll
- 4 - New Location
- F4 - Exit

18. Scan the UIC of the parent item's label. (**NOTE:** P-UIC)

Rec # 1
Associate
F4 - Exit
Enter P-UIC
-> []

19. Scan the parent item's NSN.

F2 - Restart
Enter NSN
-> []

20. Scan the parent item's package ID.

F1 - GENID
F2 - Restart

Enter PKG ID
-> []

21. Now, you will scan the first child item's UIC. (**NOTE:** C-UIC)

Rec #2
F3 - Delete
F4 - Exit
PKG ID: 123555
Enter C-UIC
-> []

22. Next, scan the child item's NSN.

F2 - Restart
Enter NSN
-> []

23. Scan the child item's Package ID.

F1 - GENID
F2 - Restart
Enter PKG ID
-> []

24. You will next select the link type. The screen you see will look like this:

Press the appropriate link type for the labels you are scanning.

(On the model 9462/9440, you will have to press the F3 button to see options 4, 5 and 6 on the display.)

Link Type:

1 - Hitched
2 - Load Onto
3 - Mobile Loaded
4 - Palletized
5 - Put into
6 - Stacked
7 - Set
F2 - Restart
? _

25. If you had another child record that you wanted to associate to the first parent item, you would scan the next child item's UIC, NSN and Package ID in the next screen.

Select F4 again to scan the next parent record. Select F4 again to go to the main menu.

Rec #3
F3 - Delete
F4 - Exit
PKG ID: 123555
Enter C-UIC
-> []

26. After you have scanned several records, you will want to *upload* the scans into the computer that has the database. You will use option 2 - Upload. If you were using ESTeem Wireless modem, you would need to setup the modems using Option 3.

EQUIPMENT PROGRAM
MAIN MENU 4.0

1 - SYSTEM	2 -
UPLOAD	
3 - SET RF	4 -
CLOCK	
5 - SCAN	6 -
RESET	
F4 Exit	
? _	

27. Connect your DCD to the computer with LOGAIS (MDSSII, TCAIMS or CAEMS) running. You need to make sure that the computer is in the "Receive Data" mode. Use the AIT/ Receive Data menu option in LOGAIS.

Select 3 - Cable Upload

Equipment Program
Upload Menu

1 - Wireless ON
2 - Wireless OFF
3 - Cable Upload
4 - Wireless Upload
F4 - Exit
? _

28. You will next see:

(On the 94XX models, you will see "Press a key when ready".)

Press Enter on the DCD.

Connect cable and
prepare to receive.
When Ready
press [Enter]

29. If the scan was properly uploaded:

success!
press a key
to continue

30. After the scans have been uploaded, all data will be cleared from the DCD, since it is now in the computer. You are then returned to the Upload menu.

Press F4 to return to the main menu.

Equipment Program
Upload Menu

1 - Wireless ON
2 - Wireless OFF
3 - Cable Upload
4 - Wireless Upload
F4 - Exit
? _

31. At the main menu, select option 6-Reset.

This menu option clears all of the scan data from your DCD. You might use this if two Marines inadvertently scanned all of the same records, and one Marine already uploaded the scans. Of course, you can send the same scans twice, you are really only updating the date, time and location of your database's equipment items. Press 4 - Clock

EQUIPMENT PROGRAM
MAIN MENU 4.0

1 - SYSTEM	2 -
UPLOAD	
3 - SET RF	4 -
CLOCK	
5 - SCAN	6 -
RESET	
F4 Exit	
? _	

32. Set Clock allows you to change the date and time on your DCD. It is a good idea that all of the DCDs used in your operation are synchronized from one person's watch (or use the MDSSII computer's system date and time) in order to keep track of the scans properly.

Date is: 03/23/96

Change Date

(Y/N): N _

33. If necessary, enter the correct year, date and month on the next screens.

Then enter the correct hour and minute on the next two screens that come up.

Time is: HH/MM

Change Time?

(Y/N): N _

MAGTF LOGAIS ACRONYMS

The following is a list of acronyms used throughout the MAGTF LOGAIS family of systems, to include MAGTF II, MDSS II, CAEMS and TC AIMS.

ACRONYM	LONG TITLE
ACA	Airlift Clearance Authority
ADANS	AMC Deployment Analysis System
AIT	Automatic Identification Technology
ALCE	Airlift Control Element
ALD	Available to Load Date
AMC	Air Mobility Command
ATAUDL	Available Transportation Asset Unit Deployment List
ATLASS	Asset Tracking for Logistics and Supply System
BOG	Beach Operations Group
CAEMS	Computer Aided Embarkation Manifest System
CAPS II	Consolidated Aerial Port System II
CD	Compact Disk
CD-ROM	Compact Disk-Read Only Memory
CEO	Communications Electronics Officer
CINC	Commander In Chief
CPU	Central Processing Unit
CSS	Combat Service Support
CSSOPS	Combat Service Support Operations Section
DACG	Departure Airfield Control Group
DCD	Data Collection Device
DOD	Department of Defense
DODAAC	Department of Defense Activity Address Code
DRMO	Defense Reutilization and Marketing Office
EAD	Earliest Arrival Date
FDP&E	Force Deployment Planning and Execution
FMCC	Force Movement Control Center
FMF	Fleet Marine Force
FMS	Foreign Military Sales
FSSG	Force Service Support Group
G-4	Assistant Chief of Staff for Logistics and Supply

ACRONYM	LONG TITLE
GBL	Government Bill of Lading
GCCS	Global Command and Control System
GME	Garrison Mobile Equipment
GMT	Greenwich Mean Time
GTN	Global Transportation Network
HOST	Headquarters On Line System for Transportation
HQBN	Headquarters Battalion
ISMO	Information Systems Management Officer
ITV	In Transit Visibility
JOPEs	Joint Operation Planning and Execution System
LAD	Latest Arrival Date
LAN	Local Area Network
LANT	Atlantic
LMCC	Logistics Movement Control Center
LOGMARS	Logistics Applications for Marking and Reading of Symbols
MAGTF LOG AIS	MAGTF Logistics Automated Information System
MAGTF	Marine Air Ground Task Force
MAGTF II	Marine Air Ground Task Force II System
MARFOR	Marine Forces
MB	Megabyte
MDL	MAGTF Data Library
MDSSII	MAGTF Deployment Support System II
MEF	Marine Expeditionary Force
MHE	Material Handling Equipment
MILSTAMP	Military Standard Transportation and Movement Procedures
MITLA	Microcircuit Technology for Logistics Applications
MOS	Military Occupational Specialty
MSE	Major Subordinate Element
MTMC	Military Traffic Management Command
MTO	Motor Transportation Officer
NSN	National Stock Number
OCCA	Ocean Cargo Clearance Authority
PAC	Pacific

ACRONYM	LONG TITLE
PAX	Passengers
PC	Personal Computer
PDCD	Portable Data Collection Device
POC	Point of Contact
POD	Point of Debarkation
POE	Point of Embarkation
POG	Port Operations Group
POO	Point of Origin
PRAMS	Passenger Reservation and Manifesting System
RAM	Random Access Memory
RCAPS	Reengineered Consolidated Aerial Ports System
RDD	Required Delivery Date
RDT	Required Delivery Time
RF	Radio Frequency
RLD	Ready to Load Date
S-4	Logistics and Supply staff section at a battalion or regiment
SAAM	Standard Assignment Airlift Mission
SPOE	Sea Port of Embarkation
SSN	Social Security Number
TAC	Transportation Account Code
TAUDL	Transportation Asset Unit Deployment List
TAV	Total Asset Visibility
TCAIMS	Transportation Coordinators' Automated Information for Movement System
TCC	Transportation Component Command
TCMD	Transportation Control and Movement Document
TCN	Transportation Control Number
TECHDATA	Technical Data (Reference Table)
TMO	Traffic Management Office
TMS	Transportation Management System
TPFDD	Time-Phased Force Deployment Data
TSAIL	Transportation Support Assets Inventory List
TRANSCOM	United States Transportation Command
UD-MIPS	Unit Diary Marine Integrated Personnel System

ACRONYM	LONG TITLE
UDL	Unit Deployment List
UIC	Unit Identification Code
ULN	Unit Line Number
UMCC	Unit Movement Control Center
USER ID	User Identification
USMTF	Message Text Format
WCA	Water Clearance Authority
WPS	World Wide Port System
WRS	War Reserve System
WSYWIG	What you see is What you get